

## ER-400W Series Solid-State GPU 400Hz Frequency Converter



ER400W as a power source to develop aircraft quality 400hz Power. It is mostly used in aircraft production manufacturing, aviation R&D, military/civil hangar, maintenance plant, aerospace equipment, military airport tarmac and wells, aviation factories.

ER400W series is one of the most popular static frequency converter. ER400W is designed to change the power at 50Hz or 60Hz to aircraft quality power at 400Hz.

It integrates IGBT made by Mitsubishi, Siemens and Infineon with PWM switching technology, and combines micro controller and digital signal processor(DSP) for quicker response and higher reliability.

### **Main Features**

Automatically voltage compensation system, ideal voltage at aircraft connector

Self diagnose system which would show error code/faulty explanation on the VFD screen

Memory stores 10 events

Galvanically isolated, low harmonic distortion

Thoroughly proven advanced SPWM and IGBT technology

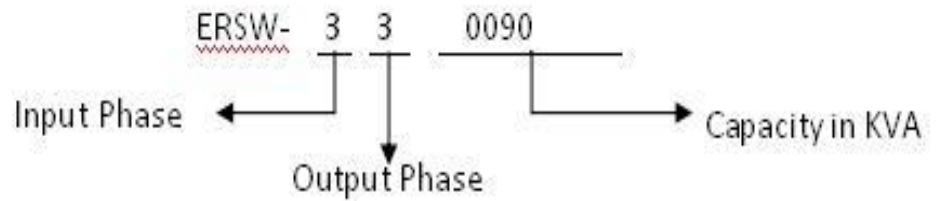
Pure sine wave output

Eco-friendly, high efficiency, low noise

28VDC military interlock

## Models Selection

The ERSW series power supply model designation is shown below:



ERSW series power supply are available with the following capacities(parallel operation is available):

Single phase output: 1KVA ~ 100KVA

Triple phase output: 1KVA ~ 450KVA

### Specification

#### Capacity

30/45/60/90/120/150/180KVA

#### Input

Voltage: 3 x127V/220V±15% or

3 x220V/380V±15%,

3 x240V/415V±15%

Or as per your specific requirement

(select one individual voltage)

Frequency: 40-70Hz

Power Factor:

≥0.8 (Standard type)

≥0.9 (12 pulse type, optional item)

Inrush current: None, soft start

#### Output

3x115/200V,3x120/208V(L-N/L-L),

Or select one individual voltage

Frequency: 400Hz (320-480Hz adjust)

Interface:RS232/485 communication port

Voltage regulation:  $\pm 1\%$  FS(full scale)

Frequency regulation:  $\pm 0.1\%$

Crest:  $1.414 \pm 0.1$

Distortion: THD<3% @ linear load

Voltage difference between each phase<3V

Line drop compensation:1-10V

Voltage recovery:  $\Delta U < 10\%$  and rec. time <50 ms at 100% load change

Phase angle symmetry:

$120^\circ \pm 2^\circ$  (33% unbalance Load )

$120^\circ \pm 4^\circ$  (100% unbalance Load )

## **Overload**

125% for 600 sec; 150% for 60 sec;  
200% for 10 sec.

## **Protection**

Input Over/under voltage, phase loss

Over current, Over load,

Inner over heating,Short circuit,

Output Phase loss, wrong phase sequence

Self diagnose and alarm

## **VFD display and control**

Output voltage, Current, Frequency

Start/Stop,On/off each output

Line drop compensation status

Emergency Stop

## **Available options**

28 VDC, 300-3000 A (45-180KVA only)

Additional output contactor

Remote control box

Terminal extension for 2 PCS of 7 core cable

Parallel system

Door Interlock

28V Military Interlock

## **Working condition**

Temperature:-40 to 55°C

Humidity:10~95% non condensing

Noise:< 65dB within 1 meter

IP22 / IP55

## **Reliability&Efficiency**

Mean Time Between Failure (MTBF) 50,000H

Mean Time To Restoration (MTTR)< 30 min

Electromagnetic compatibility: Meeting relevant requirement of IEC61000-6-2 and EC61000-6-4

Standby power consumption: <65W

No-load power consumption: <2.5KW

Efficiency: ≥85% at full load for standard type

≥95% at full load for 12-pulse type(Optional)

## **Standards**

DFS400

MH/T6018

ISO 6858

MIL-STD-704F

EN62040-1-1

GJB572

EN61000

GJB 181